

Tennessee Pollution Prevention Partnership Success Story



McDonald Elementary
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www.greenek12.org/mcdonald/



1-800-734-3619
www.tdec.net/ea/tp3

McDonald School Conserves Energy

The Member

McDonald is a small rural Pre-K through 8th grade school in Greene County with an enrollment of approximately 425 students. The campus includes a small wooded area. There are no ponds or streams on the site. The students, staff, and administration of McDonald School embrace the belief that pollution prevention and cleanup is everybody's responsibility. God has made man the caretaker of the earth. We believe in responsible stewardship through recycling, hazardous and household waste management, energy, land and water conservation, and the reduction of air pollution.



Students packaged and mailed CFLs to families for Change a Light, Change the World Day Campaign

The Story

McDonald students became involved in energy education and conservation efforts in the last half of the 1980's. Energy conservation continues today through the efforts of the McDonald TSAP Club, which obtained project ideas and curriculum through the Tennessee Energy Education Network at the Department of Economic and Community Development/ Energy Division. Over the years, the TSAP Club has been active by: sending energy conservation newsletters to the community; holding energy conservation contests; promoting energy education activities at school; conducting school energy audits; hosting energy and environmental exhibits at various locations, including the local mall and the county Parenting Fair; holding energy carnivals; producing an energy conservation calendar distributed to the community; giving away compact fluorescent light bulbs in the community; and sponsoring campaigns to raise money to buy air pollution credits from the Clean Air Conservancy, as students learn how energy use pollutes the air.

During the summer 2004, our school received a lighting upgrade. The fluorescent lights were upgraded from T-12 to T-8 bulbs with electronic ballasts, and exit signs were changed from incandescents to LEDs. Programmable thermostats have been installed in each classroom and computer monitors in the labs and most classrooms have been set on energy saver mode to produce further energy savings. Students discovered that the lighting upgrade had been accomplished when they conducted an energy audit of the building and used the flicker-checker to survey the lights in each room.

The Success

Energy upgrades to the school building have saved money and kilowatt-hours. Comparing the average energy usage for three years prior to the upgrades with average energy usage for the three-year period since the upgrades showed that ~145,000 kWhs on average are now being saved each year. Using 6.05 cents per kilowatt-hour as the school's cost for electricity, this amounts to an average savings of \$9425 per year.

McDonald's energy education activities have resulted in many awards for the TSAP Club. The club has won the state NEED Project (National Energy Education Development) several times as well as being a national finalist on several occasions. Some of the awards won by the club include the President's Environmental Youth Award for EPA Region 4, the Good Sports Always Recycle Award, TSAP Club of the Year, environmental stewardship awards from the Tennessee Department of Environment and Conservation, and recognition as a partner school with the Clean Air Conservancy.

The Pollution Prevented

According to TVA, saving 145,000 kWhs translates into keeping 145,000 pounds of coal from being burned, while reducing air pollution emissions as follows: 1160 pounds of SO₂, 435 pounds of NO_x, and 195,750 pounds of CO₂. In addition, the distributed compact fluorescent bulbs have an average savings of over 16,000 kWhs of electricity per year in the community, meaning an additional savings of 16,000 pounds of coal, 128 pounds of SO₂, 48 pounds of NO_x, and 21,600 pounds of CO₂. The school has also been able to retire 3,000 pounds of air pollutants through its partnership with the Clean Air Conservancy.

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